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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,187	09/09/2003	Masaru Kouno	0229-0776P	1623

2292 7590 05/24/2004

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EXAMINER

BLAU, STEPHEN LUTHER

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/657,187	Applicant(s) KOUNO ET AL.	
	Examiner Stephen L. Blau	Art Unit 3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite in that the statement "The vertical plane VP1 perpendicularly to the vertical plane VP1" does not make sense. How can a plane be perpendicular to itself?

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 1-5, and 9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,716,114.

Claims 1-3 of U.S. Patent No. 6,716,114 disclose a head volume not less than 300 cc (Claim 1), a gravity point distance between the shaft center line on a vertical plane being 26-36 mm (Claim 1), and a distance between a heel end and a shaft center line being in a range of 10-16 mm (Claim 1). Claims 1-3 of U.S. Patent No. 6,716,114 do not disclose what the distance would be for a gravity point distance which is the shortest distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line but clearly an artisan skilled in the art would have selected a suitable distance to minimize the head rotating around a shaft due to inertia in which a gravity point distance which is the shortest distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line meeting the equations of claims 1-5 are included.

Claims 1-3 of U.S. Patent No. 6,716,114 lacks the a gravity point distance being the shortest distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line meeting the equations of claims 1-5. It would have been obvious to have the gravity point distance as defined by the claims meeting the equations in order to have another way of defining the distance between the center of gravity to the shaft center line.

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5. Claims 6-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,716,114 and in view of Cackett.

The head of claims 1-3 of U.S. Patent No. 6,716,114 will have a moment of inertia of a head around a vertical axis passing through a gravity point.

Claims 1-3 of U.S. Patent No. 6,716,114 lacks a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11. Cackett discloses a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11 (Abstract) in order to have the advantages of a large volume and large moment of inertia head (Col. 2, Lns. 38-48). In view of the patent of Cackett it would have been obvious to modify the head of claims 1-3 of U.S. Patent No. 6,716,114 to have a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11 in order to have the advantages of a large volume and large moment of inertia head.

6. Claim 8 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,716,114 and in view of Iwata.

The head of claims 1-3 of U.S. Patent No. 6,716,114 has a sweet spot (Claim 1).

Claims 1-3 of U.S. Patent No. 6,716,114 lacks a sweet spot being in a range from 25-40 mm. Iwata discloses a sweet spot being in a range from 25-40 mm (Col. 16

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Table 2). In view of the patent of Iwata it would have been obvious to modify the head of claims 1-3 of U.S. Patent No. 6,716,114 to have a sweet spot being in a range from 25-40 mm in order to utilize a sweet spot height used in the art.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rugge in view of Cackett and Oonuki.

Rugge discloses a head volume of 250 cc or greater (Col. 5, Lns. 60-63), volumes as high as 285 cc (Table 1), a gravity point distance of 27-33 mm (Col. 5, Lns. 25-31) in order to have the center of gravity closer to the shaft axis thereby reducing the moment of inertia about the shaft axis making rotation of a head easier during the swing motion and enhance proper perpendicular positioning of the head in relation to the targeted trajectory (Col. 5, Lns. 8-30).

Rugge lacks a head volume not less than 300 cc, the a gravity point distance being the shortest distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line meeting the equations of claims 1-5,

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and a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11.

Cackett discloses a head having a volume not less than 300 cc (Abstract) and a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11 (Abstract) in order to have the advantages of a large volume and large moment of inertia head (Col. 2, Lns. 38-48). In view of the patent of Cackett it would have been obvious to modify the head of Rugge to have a head volume not less than 300 cc and a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11 in order to have the advantages of a large volume and large moment of inertia head.

Rugge will have an orientation of a gravity point distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line in view of figure 2 and clearly it would be a distance less than the distance from the center of gravity to a shaft axis (Fig. 2). Rugge discloses a center of gravity being 27 mm along a perpendicular distance from a shaft axis and 13 mm from a vertical plane containing the shaft axis (Col. 5, Lns. 42-43). As such a gravity point distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line would meet all the equations of claims 1-5 for a 300 cc volume head with the distance being just less than 24 mm (Right triangle having the hypotenuse side being 27 mm (Col. 5, Lns. 25-31) and one of the other sides being 13 mm (Col. 5, Lns. 32-50)). Oonuki discloses the center of gravity of a head and a center of gravity of the of the

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scoring area being 20-50 mm away from a shaft axis in a perpendicular direction (Col. 2, Lns. 23-35, Fig. 66). In view of the patent of Oonuki it would have been obvious to modify the head of Rugge to have a gravity point distance as defined by the claims meeting the equations in order to have the center of gravity closer to the shaft axis thereby reducing the moment of inertia about the shaft axis making rotation of a head easier during the swing motion and enhance proper perpendicular positioning of the head in relation to the targeted trajectory.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rugge in view of Cackett and Oonuki as applied to claims 1-7 above, and further in view of Iwata.

Iwata discloses a sweet spot being in a range from 25-40 mm (Col. 16 Table 2). In view of the patent of Iwata it would have been obvious to modify the head of Rugge to have a sweet spot being in a range from 25-40 mm in order to utilize a sweet spot height used in the art.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rugge in view of Cackett and Oonuki as applied to claims 1-7 above, and further in view of Stites.

Rugge discloses a distance between a heel end and a shaft center line (Fig. 1).

Rugge lacks a distance between a heel end and a shaft center line being in a range of 8-16 mm. Stites discloses a distance between a heel end and a shaft center line being in a range of 10-16 mm lacks (Col. 6, Lns. 48-50). In view of the patent of Stites it would have been obvious to modify the head of Rugge to have a distance

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between a heel end and a shaft center line being in a range of 10-16 mm in order to utilize a distance used in the art, add weight on the heel side of a head to move the center of gravity closer to a shaft and in order to make the head legal to be used in the PGA.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (703) 308-2712. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Greg Vidovich whose telephone number is (703) 308-1513. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858. (TC 3700 Official Fax 703-872-9306)

slb/ 21 May 2004


STEPHEN BLAU
PRIMARY EXAMINER